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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/284,030	04/06/99	BITTLESTON	14.0088

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GEO QUEST  
INTELLECTUAL PROPERTY LAW DEPT.  
5599 SAN FELIPE  
SUITE 1700  
HOUSTON TX 77056

EXAMINER

TAYLOR, V

ART UNIT

PAPER NUMBER

2862

DATE MAILED:

10/19/00

10/19/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
09/284,030

Applicant(s)  
Simon Hastings

Examiner  
Victor J. Taylor

Group Art Unit  
2862



☒ Responsive to communication(s) filed on Apr 6, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

☒ Claim(s) 1-12 is/are pending in the application

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-12 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☒ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s) \_\_\_\_\_

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

## DETAILED ACTION

### *Drawings*

1. The corrected or substitute drawings were received on 4/06/99 . These drawings are approved by the drafts person, see attached USPTO form 948, paper 4.

### *Claim Rejections - 35 U.S.C. § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Fowler in US 4711194.

With regard to claim 1, Fowler discloses the limitations of ; a control device for controlling the position of a marine seismic streamer, (see figure 3 all elements and the streamer cable bird, mounted in series with the streamer cable element 14.), the device comprising a body mechanically connected in series, (see element 10 in figure 1), between two adjacent sections of the streamer, (see element 12 and element 14 in figure 3.), sensor means in the body for determining its angular position in a plane perpendicular to the longitudinal axis of the streamer.

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(see the depth sensor element 74 in figure 3.), two opposed control surfaces projecting outwardly from the body, (see figure 26, two blades on the bird in figure 1.), each control surface being rotatable about an axis which in use extends transversely of the streamer, (see the rotating mechanism, comprising motor elements 76, with gear elements 82 and 78, with rotatable wings and lever elements 84 and 26 in figure 3.), and control means responsive to control signals and the sensor means for independently adjusting the respective angular positions of said two control surfaces so as to control the lateral position of the streamer as well as its depth, (see the electronic circuit control means element 70 in combination with the sensors elements 74, and the mechanical leverage means elements 84 and 82 with 78, all in figure 3.), and in combination with the cable positioning and leveling and rigid adapter module in column 1 lines 12-16.

As to claim 2, Fowler discloses limitations including an electric power line, (see the electrical connections element 36 in figure 1.), wherein the control means is at least partly electrical and arranged in use to receive electric power, (see the electrical wire and electronic circuitry elements 72, 70 and the coupling coil element 66 in figure 3.), from said electric power line, (see element 36 in figure 1.).

As to claim 3, Fowler discloses the limitation which also includes a control line, (see the electronic connection cable element 36 in combination with the strain members 30, 32, and 34 with the streamed cable element 12 and the cable and electronics cable connector line 66 in column 3 which constitutes a control line connection for the electronic circuitry element 70 in

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figure 3.), wherein the control means is arranged to use to receive control signals from the control line, (see transmitting information t and from a towing vessel in column 4 lines 1-2.).

As to claim 4, Fowler discloses wherein said two control surfaces are releasable secured to the body, (see element 10 mounted in series with streamer cables 12 and 14 in figure 1, and in combination with the bird 10 in column 3 line 51.).

As to claim 5, The limitations of claim 5, < the body is adapted to be wound on to a streamer drum while still connected in the streamer. > are considered inherent in the apparatus of <Seismic survey using streamer cables with leveling birds.>, and/or are within the normal range of operating the apparatus. Fowler discloses the flexible streamer cable 14 adaptable with the attachment 20 for rolling on drum storage in figure 1.

As to claim 6, The limitations of claim 6, < the body is at least partly flexible.> are considered inherent in the apparatus of <Seismic streamer cable with birds.>, and/or are within the normal range of operating the apparatus. the limitation of body is at least partly flexible is disclosed as element 12 in figure 1.

As to claim 7, Fowler discloses the limitation of the body is of approximately the same diameter as the streamer, (see the approximate body of the bird element 20, attached onto the cable elements 16 with the approximate size as the streamer cable elements 12 and 14 in figure 1.

As to claim 8, Fowler discloses the control means includes at least one electrical motor, (see the electrical motor element 76 in figure 3.).

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As to claim 9, Fowler discloses the limitation of control means includes means for sensing the angular position of each of the two control surfaces, (as the depth sensors and compass headings in column 2, line 53.).

As to claim 10, Fowler discloses the limitation of two control surfaces rotate about a common axis, (See the rotatable housing with the wings and paravanes rotatably secured to the adapter module in series with two streamer cable sections in column 2 lines 27-30.).

As to claim 11, Fowler discloses the limitations of each of the two control surfaces, (see the wing elements 26 in figure 1.), comprises a respective wing-like member which is swept back with respect to the direction of tow of the streamer, (see the wing and swept back design in figures 2 and 3.)..

As to claim 12, The limitations of claim 12, <of the body is adapted to be non-rotatably coupled in the streamer.>, is considered inherent in the apparatus of <seismic streamer cable with leveling paravanes or wings.>, and/or are with in the normal range of operating the apparatus. Fowler discloses the limitation of the body is adapted to be non-rotatably coupled in the streamer in the back ground of the invention, see the bird secured to the skin in line 28 of the invention. It is furthered noted by the examiner that the state of the art in seismic streamer cables using leveling devices provide for a plurality of attachment methods as found in the art.


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#### **Prior Art**

4. The prior art made of record and not relied upon is considered pertinent to applicant;  
Kuche, US 5619474, is cited for the depth control of seismic streamers.  
Chien, US 6011753, is cited for control of external devices on seismic streamers.

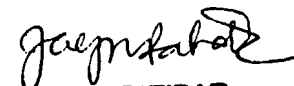
#### **Conclusion**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor Taylor whose telephone number is (703) 305-4470. The examiner can be reached on work days, Monday to Friday, from 8:30 AM to 4:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christine Oda can be reached on (703) 305-4908. The fax phone number for the organization where this application is assigned is (703) 308-7382. Any inquiry of a general nature relating to the status of this application should be directed to the receptionist whose telephone number is (703) 308-0956.

  
Victor J. Taylor

10/16/2000

Christine Oda

  
**JAY PATIDAR**  
**PRIMARY EXAMINER**